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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,830	09/07/2004	Ralph Gronau	PC10368US	7681

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EXAMINER

BURCH, MELODY M

ART UNIT PAPER NUMBER

3683

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/506,830	Applicant(s) GRONAU ET AL.	
	Examiner Melody M. Burch	Art Unit 3683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 September 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 15-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/7/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities: the specification makes reference to cancelled claims 1 and 14. See line 10 of pg. 3, for example. Also the legal term "said" is used within the body of the specification. See line 3 from the bottom of pg. 4, for example.

Appropriate correction is required.

### ***Claim Objections***

2. Claim 23 is objected to because of the following informalities: a period should be included at the end of the claim. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 17 and 22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The original disclosure fails to provide support for the limitation of producing an additional pressure when the nominal pressure is higher than the actual pressure or the nominal vehicle acceleration is lower than the

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actual vehicle acceleration for a predetermined period of time or an additional pressure reduction when the nominal pressure is lower than the actual pressure or the nominal vehicle acceleration is higher than the actual vehicle acceleration for a predetermined period of time. Contrary to the claim recitations, it appears from the specification and the drawings that the period of time that it will take to achieve a state where the nominal pressure or vehicle acceleration coincides with the actual pressure or actual vehicle acceleration is unknown and, thus, requires the system to use iterative corrective measures to reach the equilibrium state. Clarification is required.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 15-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re: claim 15. The phrase "quantities derived therefrom" in lines 1-3 from the bottom of the claim is indefinite. It is unclear to the Examiner as to which quantities the phrase intends to refer to.

Re: claims 21 and 22. The phrase "an additional pressure when the nominal pressure is lower than the actual pressure" in lines 5-6 of claim 21 is incorrect. From the specification it appears that Applicant intended for the claim to read ---an additional pressure reduction when the nominal pressure is lower than the actual pressure--.

Examiner has interpreted the claim as including the latter phrase. A similar issue exists in line 6 of claim 22. Clarification is required.

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Re: claims 22, 23, and 25. The phrase "like an hydraulic valve" in line 2 of claims is grammatically incorrect and also fails to clearly define the metes and bounds of the claim.

Re: claims 24 and 25. The phrase "an additional pressure reduction" in lines 2-3 is indefinite. It is unclear how there can be an additional pressure reduction when the first pressure reduction has not been previously recited.

Re: claim 28. The phrase "a second evaluating unit" in line 7 from the bottom of claim 28 is indefinite since it is unclear how there can be a second unit when the first unit has not been previously recited.

The following terms lack proper antecedent basis in the claims:

- "the nominal vehicle acceleration" in claims 16-25;
- "the pump actuation time" in claims 18 and 20;
- "the actual vehicle acceleration" in claim 18-21, 23, and 25;
- "the valve actuation current" in claims 23 and 25;
- "the pressure-generating unit" in claims 26 and 27;
- "the pump" and "the valve" in claim 27;
- "the driver", "the wheel brakes", "the pressure sensor signal" in claim 28.

The remaining claims are indefinite due to their dependency from claim 15.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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8. Claims 15, 16, 17, 21, 22, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 6030055 to Schubert.

Re: claims 15. Schubert shows in figures 1 and 3 a method for controlling a vehicle brake system with active hydraulic brake force boosting, herein an active pressure-increasing unit 1 or a pressure modulation unit 4 is actuated according to a comparison of a nominal pressure or a nominal vehicle speed or quantities derived therefrom, with an actual pressure or an actual vehicle speed or quantities derived therefrom as shown in figure 3 and disclosed in col. 6 lines 63-67 and col. 7 lines 5-7.

Re: claims 16 and 17. See figure 3 and the steps following step 204 under option Y.

Re: claims 21 and 22. See figure 3 and the steps following step 204 under option N.

Re: claim 23. See figure 2 element 13a, figure 3 steps 204, 306, and 308.

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 19, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schubert.

Re: claims 19, 24, and 25. Schubert describes the invention substantially as set

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forth above including the limitation of generating a pressure increase when the nominal or reference pressure is higher than the actual pressure, but is silent with regards to the specific percentage ranges.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the percentages at which the pressure increasing unit or pressure reducing unit of Schubert actuates to have been 20% to 50% or 40% to 60% or the amount the valve current strength increases by 200% to 400% or any other appropriate range as determined by routine experimentation based on the particular application since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

11. Claims 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schubert in view of US Patent 5419622 to Burg et al.

Schubert describes the invention substantially as set forth above, but is silent as to the way in which the pump is operated to achieve additional pressure.

Burg et al. teach in col. 2 lines 30-33 the use of increased pump actuation time or longer pulse time as a means of generating additional pressure.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the means of generating additional pressure to have included increased actuation time, as taught by Burg et al., in order to provide an equally effective functionally equivalent means of generating a pressure increase.

With regards to the amount by which the actuation time is increased Examiner notes that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the actuation time of the pump of Schubert, as modified, to have been extended by 30% to 100% or 200% to 400% or any other appropriate range as determined by routine experimentation based on the particular application since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

12. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schubert in view of US Patent 5816667 to Jokic.

Schubert describes the invention substantially as set forth above, but lacks the limitation of a modified actuation being based on an ignition cycle.

Jokic teaches in col. 5 lines 42-45 the limitation of a modified actuation or learning process being based on ignition cycles or the commencement of a new ignition cycle.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the basis on which the modified actuation of Schubert occurs to have been ignition cycles, as taught by Jokic, in order to provide an effective means of varying the modified actuation according to some vehicle characteristic to improve the system's vehicle control adaptability capabilities.

13. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schubert in view of US Patent 5090780 to Powell.



Schubert describes the invention substantially as set forth above, but lacks the limitation of when the modification of the actuation of the pressure generating unit or brake control operation will take place.

Powell teaches in col. 3 lines 23-27 the limitation of initiating a particular brake control operation after the expiration of a given period of time.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the initiation of the modification of the actuation of the pressure generating unit of Schubert to have been after the expiration of a given period of time, as taught by Powell, in order to provide a means of having a control strategy to help ensure system stability prior to actuation.

14. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6209968 to Bayens et al. in view of Schubert.

Bayens et al. show in figure 1 a device for controlling a vehicle brake system with active hydraulic brake force boosting, including an actuating unit 3 by means of which the driver can introduce brake pressure into a hydraulic unit 9, with at least one wheel brake 11 that is connected to the actuating unit by way of the hydraulic unit containing at least one brake line 22, with a pump shown connected to element M communicating with its suction side with the actuating unit by way of a change-over valve or check valve shown immediately below the pump and communicating with its pressure side with the brake line, with an actuatable inlet valve or check valve shown immediately above the pump arranged in the brake line, with an actuatable separating valve 20 interposed between the inlet valve and (the top of) the actuating unit, with an

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actuatable outlet valve shown immediately to the left of the change-over valve arranged in a return line as shown, with a pressure sensor 23 associated with the actuating unit, with a wheel speed sensor 15 and with a first actuating unit M for actuating the pump that introduces pressure into the wheel brakes for active brake force boosting when a point of maximum boosting of the brake booster is reached or exceeded, wherein a first determining unit 6 for determining a nominal pressure or a nominal vehicle acceleration that corresponds to the pressure according to the pressure sensor signal indirectly via E, a second determining unit 7 for determining an actual vehicle acceleration or an actual pressure that corresponds to the vehicle acceleration according to the wheel speed sensor signal, a comparison unit 8 for comparing the nominal pressure with the actual pressure or the actual vehicle acceleration with the nominal vehicle acceleration, a second evaluating unit 18 for actuating the pump or the separating valve according to the comparison, but is silent with regards to the limitation of wherein when the nominal pressure is higher than the actual pressure or when the nominal vehicle acceleration is lower than the actual vehicle acceleration, the pump is actuated for the purpose of generating additional pressure, and when the nominal pressure is lower than the actual pressure or when the nominal vehicle acceleration is higher than the actual vehicle acceleration, the separating valve is actuated for producing an additional pressure reduction.

Schubert teaches in figure 3 the limitation of wherein when the nominal pressure is higher than the actual pressure or when the nominal vehicle acceleration is lower than the actual vehicle acceleration, the pump is actuated for the purpose of generating

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additional pressure in steps 204, 300, 302, and 304, and when the nominal pressure is lower than the actual pressure or when the nominal vehicle acceleration is higher than the actual vehicle acceleration in steps 204, 306, 308, 310, the separating valve is actuated for producing an additional pressure reduction.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the control of Bayens et al. to have included the pressure increase and reduction controls, as taught by Schubert, in order to provide a means of improving vehicle ride feel by causing the actual pressure or deceleration to match the actual pressure or deceleration.

### ***Conclusion***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents: 5429425 to Drott and 6208926 to Wagner et al. teach the use of braking systems which include a comparison of nominal brake pressure or deceleration with actual brake pressure or deceleration.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 571-272-7114. The examiner can normally be reached on Monday-Friday (6:30 AM-3:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James McClellan can be reached on 571-272-6786. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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October 30, 2005

*Melody M. Burch*